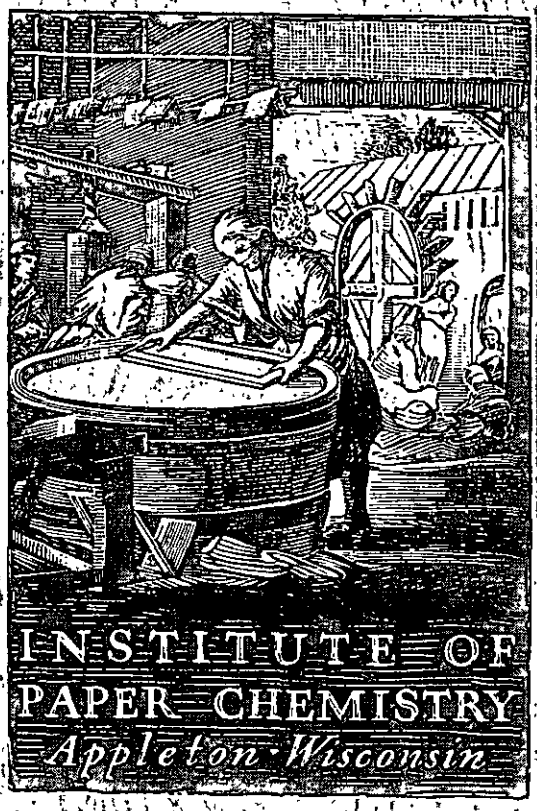

CONTINUOUS BASELINE STUDY

Project 1108-13

Summary Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

April 1, 1957

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS BASELINE STUDY

Project 1108-13

Summary Report

to

Fourdrinier Kraft Board Institute, Inc.

April 1, 1957

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

This report presents a summary of the results obtained in conjunction with the Continuous Baseline Study from October 1, 1956, to March 31, 1957—a period of six months—and is supplementary to a similar report dated October 1, 1956. The duration of each reported period and number of samples processed during each are given in Table I; the number of samples processed from each participating mill during each period is shown in Table II.

Previous summary reports have presented data for 111 periods of the Continuous Baseline Study. This report summarizes the results obtained for periods 112 to 117. As indicated by the current F.K.I. test averages shown in Table III and graphically illustrated in Figure 1, it may be seen that the following trends have been evident during periods 1 to 117.

Basis Weight: The basis weight averages varied only slightly from a level of 43 lb.

Caliper: The caliper averages decreased from a high of 15.6 points during the initial period to 13.4 points during the 41st period at which time caliper had reached a plateau from which it has decreased slightly to its present level of 12.7 points.

Bursting Strength: The bursting strength averages increased substantially during the first 36 periods of the Continuous Baseline Study (from approximately

TABLE I

DURATION OF REPORTED PERIODS AND NUMBER OF 42-LB.

KRAFT LINERBOARD SAMPLES PER PERIOD

Period	Duration	Number of Samples
112	October 1 through October 31, 1956	108
113	November 1 through November 30, 1956	88
114	December 1 through December 31, 1956	85
115	January 1 through January 31, 1957	91
116	February 1 through February 28, 1957	84
117	March 1 through March 31, 1957	103

TABLE II

TABULATION BY PERIODS OF THE NUMBER OF SAMPLES OF 42-LB. KRAFT LINERBOARD SUBMITTED BY EACH MILL

Mills	Periods 112	113	114	115	116	117
A	6	2	6	4	8	4
B	3	4	3	2	0	0
C	4	4	2	2	4	6
D	4	9	6	12	7	13
E	8	6	8	4	6	6
F	8	8	8	0	0	0
G	7	8	3	4	5	2
H	6	5	6	6	3	7
I	4	2	0	3	4	3
J	9	2	4	4	5	3
K	10	6	3	6	6	12
L	0	1	1	1	3	2
M	0	4	3	5	2	6
N	3	2	2	3	3	2
O	7	0	7	8	5	12
P	12	8	6	10	6	8
Q	9	9	9	9	9	9
S	8	8	8	8	8	8
Total	108	88	85	91	84	103

TABLE III

TABULATION OF CURRENT F.K.I. AVERAGES BY PERIODS

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	G. E. Puncture, units	Elmendorf Tear, g./sheet	
					In	Across
1	42.9	15.6	103	40	389	422
2	42.6	15.3	102	39	373	408
3	43.1	15.4	105	39	395	423
4	43.4	15.2	107	39	381	412
5	43.2	15.4	104	39	378	419
6	43.1	15.2	101	39	377	416
7	43.4	15.4	99	39	384	411
8	42.9	14.9	102	39	383	409
9	43.2	15.0	101	40	387	416
10	43.4	15.0	101	37	403	426
11	43.2	14.7	104	38	400	423
12	43.0	14.6	103	37	394	423
13	42.9	14.5	102	38	379	416
14	43.0	14.5	102	37	379	411
15	43.0	14.5	105	34	372	409
16	43.3	14.8	104	34	370	400
17	43.1	14.9	105	36	372	408
18	43.5	14.8	104	36	374	411
19	43.3	14.6	105	38	364	401
20	43.2	14.2	106	37	372	406
21	43.4	14.1	109	37	376	415
22	43.0	14.1	113	37	381	414
23	43.3	14.1	110	37	377	410
24	43.5	14.1	110	36	379	405
25	43.5	14.4	109	35	382	414
26	43.4	14.2	110	36	374	404
27	43.4	14.0	112	37	385	425
28	43.4	14.1	111	37	388	417
29	42.9	14.0	109	36	379	415
30	43.1	13.7	108	36	383	425
31	43.0	13.6	106	36	384	418
32	42.6	13.6	106	36	390	418
33	43.6	13.7	110	36	376	413
34	43.5	13.5	110	36	379	410
35	43.3	13.4	109	36	374	414
36	43.2	13.4	110	36	372	411
37	43.3	13.7	107	35	379	412
38	43.0	13.7	106	35	372	411
39	42.9	13.6	105	35	369	402
40	42.9	13.8	104	36	379	412

TABLE III--Continued

TABULATION OF CURRENT F.K.I. AVERAGES BY PERIODS

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	G. E. Puncture, units	Elmendorf Tear, g./sheet In	Across
41	42.9	13.4	102	34	371	403
42	42.9	13.3	102	35	374	408
43	42.6	13.4	102	36	373	401
44	42.5	13.4	104	35	357	390
45	42.7	13.3	105	35	362	395
46	42.4	13.2	105	35	359	393
47	42.6	13.4	104	35	365	399
48	42.6	13.3	103	36	367	397
49	42.8	13.3	104	35	362	397
50	42.9	13.2	108	35	362	389
51	42.8	13.3	106	35	363	393
52	42.9	13.2	106	36	367	395
53	42.9	13.2	109	34	357	391
54	43.2	13.4	106	36	362	398
55	42.9	13.4	106	35	365	398
56	43.0	13.4	108	36	358	394
57	43.1	13.3	107	35	359	388
58	42.7	13.3	108	35	348	382
59	42.9	13.4	109	35	354	390
60	43.1	13.3	107	34	360	388
61	43.3	13.4	108	35	363	400
62	43.2	13.3	109	34	364	390
63	43.1	13.5	107	34	356	390
64	42.9	13.5	107	34	353	391
65	42.9	13.4	108	35	364	400
66	43.0	13.2	108	34	360	394
67	43.0	13.1	108	34	353	390
68	42.9	13.3	109	34	350	388
69	43.0	13.2	110	35	363	397
70	43.0	13.4	108	34	358	390
71	43.2	13.4	110	35	364	399
72	43.0	13.1	108	33	351	387
73	42.9	12.9	111	33	349	385
74	43.1	13.0	110	33	347	382
75	42.7	12.8	112	33	341	374
76	43.0	13.2	107	33	342	375
77	42.9	13.0	109	33	347	380
78	43.4	13.1	109	33	353	387
79	43.0	13.0	108	34	351	384
80	43.1	13.0	108	35	348	384

TABLE III—Continued

TABULATION OF CURRENT F.K.I. AVERAGES BY PERIODS

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	G. E. Puncture, units	Elmendorf Tear, g./sheet In	Across
81	42.9	13.0	110	34	356	389
82	43.0	12.9	109	34	354	383
83	43.0	13.1	111	34	351	381
84	42.7	12.9	111	33	344	377
85	43.1	12.9	114	34	352	383
86	42.9	12.8	112	34	351	378
87	42.9	12.8	112	34	347	379
88	43.1	13.0	111	35	355	382
89	43.0	13.1	109	36	361	389
90	43.4	13.0	110	37	355	384
91	42.9	12.9	111	36	355	384
92	43.2	13.0	110	35	347	377
93	43.3	13.0	112	37	358	387
94	43.0	12.8	111	36	360	387
95	42.9	12.7	110	36	362	387
96	42.8	12.6	108	35	351	383
97	43.0	12.7	109	35	358	388
98	42.8	12.7	111	35	353	385
99	42.7	12.6	109	35	352	381
100	43.0	12.7	108		352	382
101	43.0	12.7	108		352	383
102	43.0	12.6	109		345	379
103	43.0	12.8	109		342	379
104	42.8	12.8	109		345	382
105	42.8	12.8	110		347	379
106	43.0	12.7	109		343	375
107	42.9	12.6	109		341	374
108	43.0	12.7	107		343	375
109	42.9	12.7	107		342	375
110	43.0	12.7	109		340	372
111	43.2	12.7	108		333	368
112	43.1	12.7	107		335	368
113	43.1	12.7	109		334	370
114	43.1	12.7	109		337	372
115	43.1	12.7	111		342	372
116	43.1	12.8	109		339	373
117	43.1	12.7	111		339	376

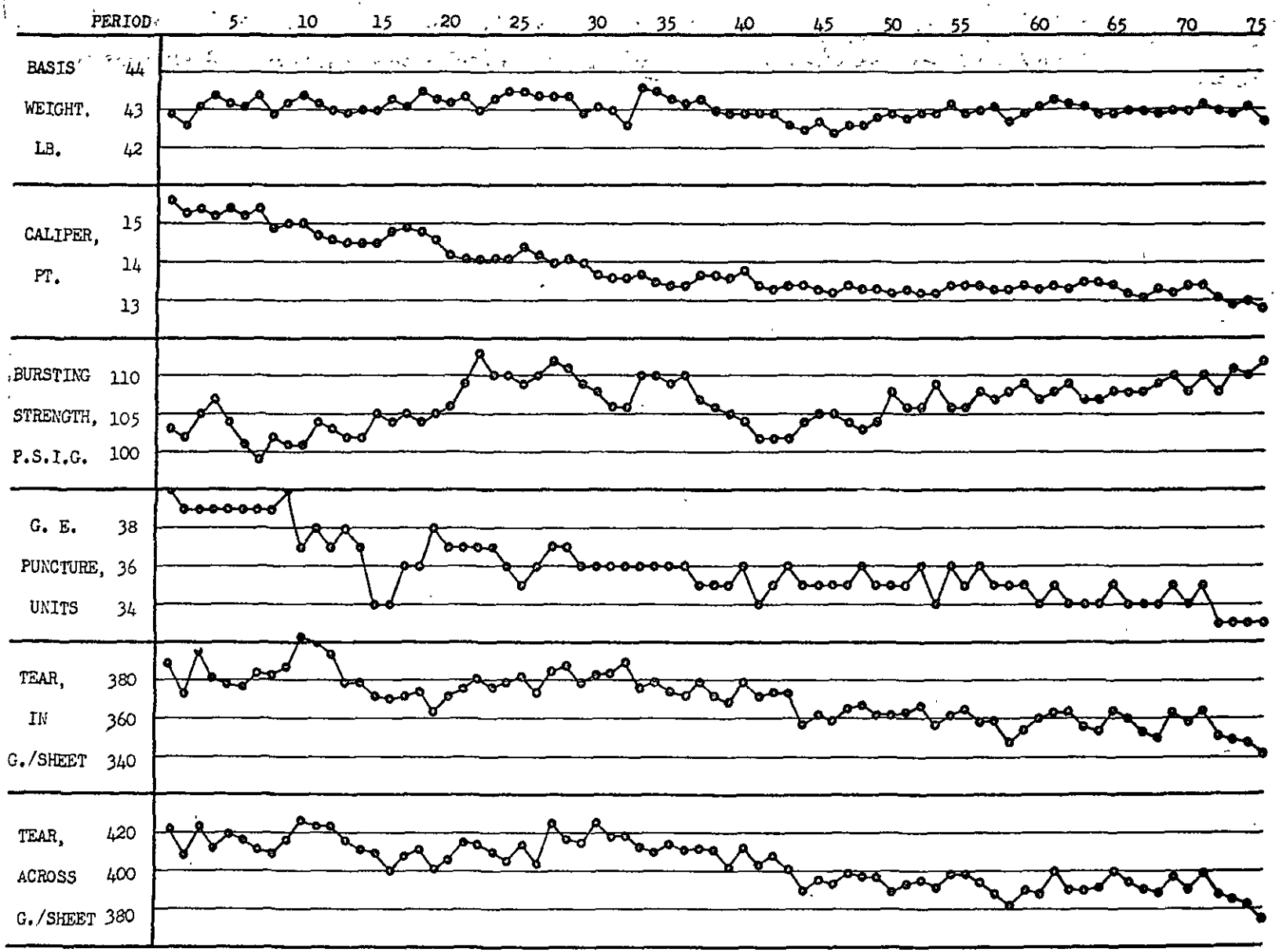

Figure 1

Comparison of Current F.K.I. Averages for Periods 1 Through 117

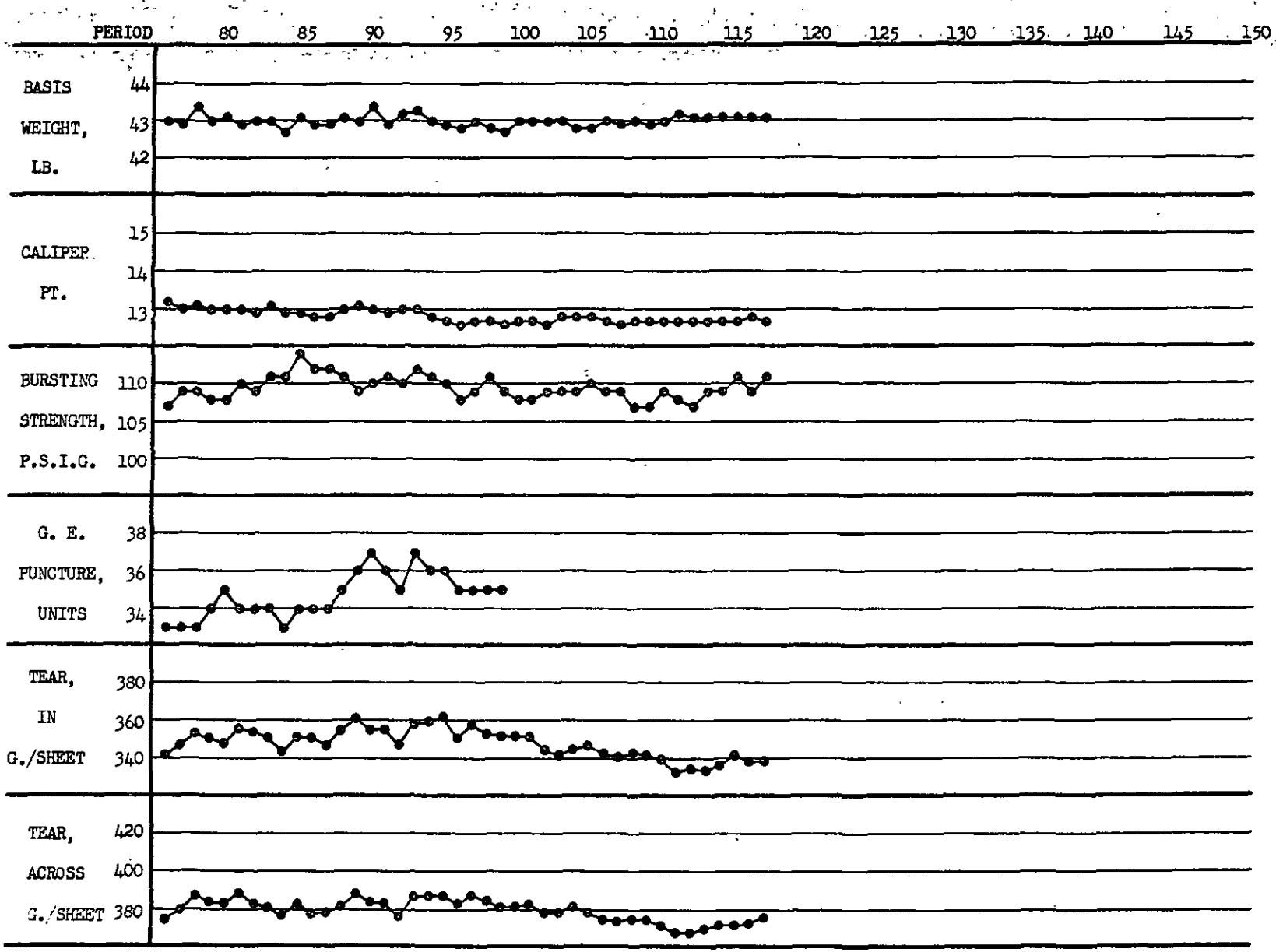

Figure 1—Continued

Comparison of Current F.K.I. Averages for Periods 1 Through 117

100 to 110 p.s.i. gage) and decreased during periods 37 to 49 (to approximately 105 p.s.i. gage). With a few exceptions, bursting strength averages have maintained a level near 110 p.s.i. gage since that time.

G. E. Puncture: At the request of the Fourdrinier Kraft Board Institute, the G. E. puncture test was discontinued at the conclusion of the 99th period. G. E. puncture averages declined from 40 units at the inception of the study to 33 units during the 72nd to 78th periods. After that, G. E. puncture averages maintained a level near 35 units until the test was discontinued.

Elmendorf Tear: Elmendorf tear averages were high for approximately the first thirty periods of the Continuous Baseline Study. However, since then there has been a gradual decline. Machine direction tear averages have declined from a high of 403 g./sheet for the 10th period to the current level near 340 g./sheet. Cross-machine direction tear averages have decreased similarly from a high of 426 g./sheet for the 10th period to the current level near 375 g./sheet.

The observations noted above pertained to the 117 periods that the Continuous Baseline Study has been in progress. This summary report, as mentioned previously, is concerned with reviewing the results not only for the entire 117 periods, but also for the most recent six-month period as reported

in progress reports 112 through 117. Therefore, with the over-all trends still in mind, it may be of interest to summarize briefly the trends for the current periods. Reference should be made to Table IV and Figure 2 where the current F.K.I. averages are shown in tabular and graphical form, respectively. From these data it may be seen that

(1) Basis weight has remained constant at a level of 43.1 lb.

(2) Caliper has also maintained a constant average near 12.7 points.

(3) Bursting strength has exhibited a slight upward trend—from 107 to 111 p.s.i. gage.

(4) Machine and cross-machine direction Elmendorf tear also have exhibited slight upward trends, both averages having increased approximately 5 g./sheet.

The test results obtained for individual mills during periods 112 through 117 are summarized in Table V. Given in Table V are the table numbers and figure numbers (and their pertinent page numbers) in which are shown the results for individual mills. Thus it may be noted in Table V, for example, that the results for Mill A are presented in Table VI and Figure 3, that the results for Mill B are presented in Table VII and Figure 4, and so on. In addition to this information, summarized succinctly for each mill in Table V, are the trends associated with each test. For example,the trends for Mill A during periods 112 to 117 were the following:

(Text is concluded on page 44)

TABLE IV

TABULATION OF CURRENT F.K.I. AVERAGES BY PERIODS

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
112	43.1	12.7	107	335	368
113	43.1	12.7	109	334	370
114	43.1	12.7	109	337	372
115	43.1	12.7	111	342	372
116	43.1	12.8	109	339	373
117	43.1	12.7	111	339	376

TABLE V

LOCATION OF DATA AND SUMMARY OF TRENDS FOR INDIVIDUAL MILLS

	Mills																		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	S	S*
Data given in Table No.	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
on Page No.	13	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23
Graphical Presentation in																			
Figure No.	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
on Page No.	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
Trends for Periods 111 to 117:																			
Basis weight:	constant near 43 lb.	variable 41.6 to 42.9 lb.	constant near 43-lb.	upward trend	constant slightly below 43 lb.	constant near 43.7 lb.	constant slightly below 43 lb.	variable 42.3 to 43.6 lb.	constant near 42.5 lb.	variable 42.3 to 43.9 lb.	constant near 43.5 lb.	variable 41.2 to 43.8 lb.	slight downward trend	constant near 44 lb.	upward trend	constant near 43.6 lb.	variable 43.3 to 44.5 lb.	constant near 42.7 lb.	constant near 47 lb.
Caliper:	constant near 12.3 pt.	variable 11.4 to 12.1 pt.	slight downward trend	constant slightly above 12 pt.	constant near 13.5 pt.	constant near 13.5 pt.	constant near 13.2 pt.	constant near 12.3 pt.	constant near 13.4 pt.	variable 12.1 to 13.1 pt.	constant near 12.3 pt.	upward trend	slight downward trend	constant near 13.1 pt.	constant near 12.9 pt.	constant near 12.7 pt.	constant near 12.9 pt.	variable 12.2 to 12.9 pt.	slight downward trend
Bursting Strength:	variable 105 to 118 p.s.i. gage	variable 106 to 116 p.s.i. gage	slight upward trend	upward trend	constant near 116 p.s.i. gage	variable 106 to 113 p.s.i. gage	constant near 111 p.s.i.gage	near 110 p.s.i.gage	100 to 110 p.s.i.gage	near 109 p.s.i. gage	generally near 109 p.s.i. gage	slight down-ward trend	upward trend	variable 102 to 110 p.s.i.gage	upward trend	constant near 110 p.s.i. gage	slight upward trend	constant near 112 p.s.i. gage	variable 83 to 100 p.s.i. gage
Tear, in:	slight upward trend	variable 329 to 356 g./sh.	variable 333 to 382 g./sh.	variable 375 to 394 g./sh.	constant near 310 g./sh.	constant near 320 g./sh.	constant near 320 g./sh.	constant near 310 g./sh.	near 330 g./sh.	constant near 300 g./sh.	variable 326 to 353 g./sh.	variable 280 to 345 g./sh.	variable 341 to 323 g./sh.	upward trend	slight upward trend	constant near 320 g./sh.	slight upward trend	variable 316 to 338 g./sh.	slight downward trend
Tear, across:	slight upward trend	variable 363 to 386 g./sh.	slight upward trend	variable 398 to 421 g./sh.	constant near 375 g./sh.	constant near 370 g./sh.	variable 350 to 373 g./sh.	constant near 370 g./sh.	variable 341 to 363 g./sh.	variable 340 to 361 g./sh.	variable 362 to 383 g./sh.	variable 336 to 364 g./sh.	variable 388 to 417 g./sh.	constant near 390 g./sh.	slight upward trend	slight upward trend	slight upward trend	constant near 365 g./sh.	slight downward trend

* Drum Linerboard.

TABLE VI

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL A

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
112	42.8	12.3	105	342	340
113	43.1	12.2	105	335	344
114	42.8	12.3	109	336	339
115	43.2	12.6	118	348	342
116	42.7	12.2	106	344	355
117	42.8	12.3	111	349	352

TABLE VII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL B

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
112	41.6	11.6	106	345	367
113	42.5	11.6	116	346	386
114	42.9	12.1	109	356	382
115	42.4	11.4	114	329	363
116	No samples submitted.				
117	No samples submitted.				

TABLE VIII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL C

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Elmendorf Tear, g./sheet Across
112	43.4	13.4	105	343	374
113	43.5	13.4	108	364	374
114	42.4	13.1	108	333	374
115	43.2	13.3	109	382	375
116	42.7	12.9	110	372	378
117	42.7	13.0	113	365	385

TABLE IX

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL D

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Elmendorf Tear, g./sheet Across
112	43.4	12.7	98	393	419
113	43.0	12.0	106	377	398
114	43.5	12.1	105	383	400
115	43.1	12.0	110	381	403
116	44.4	12.4	111	375	407
117	44.4	12.2	118	394	421

TABLE X

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL E

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	42.9	13.2	116	312	375
113	43.0	13.4	116	306	372
114	43.2	13.5	115	310	373
115	42.8	13.7	119	322	396
116	42.9	13.6	114	310	371
117	42.6	13.3	116	312	378

TABLE XI

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL F

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	43.7	13.3	113	319	372
113	44.2	14.0	106	328	372
114	43.3	13.6	108	320	368
115	No samples submitted.				
116	No samples submitted.				
117	No samples submitted.				

TABLE XII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL G

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	42.8	12.9	110	325	350
113	43.1	13.0	109	317	352
114	42.8	13.5	111	322	373
115	42.9	13.0	114	314	350
116	42.5	13.3	113	332	366
117	42.9	13.4	108	318	367

TABLE XIII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL H

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	43.1	12.5	111	317	371
113	43.0	12.3	110	300	369
114	43.0	12.4	110	306	365
115	42.6	12.0	109	308	367
116	43.6	12.5	107	317	370
117	42.3	12.3	110	309	368

TABLE XIV

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL I

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	42.7	13.7	105	328	362
113	42.4	13.0	108	339	344
114		No samples submitted.			
115	42.3	13.2	107	334	341
116	42.5	13.7	100	328	350
117	42.6	13.5	110	333	363

TABLE XV

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL J

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	42.6	12.5	110	306	340
113	43.9	13.1	112	293	351
114	43.1	13.1	106	314	361
115	43.0	12.7	107	304	358
116	42.8	12.1	111	295	341
117	42.3	13.1	108	300	348

TABLE XVI

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL K

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	43.8	12.2	105	326	362
113	43.4	12.2	109	344	371
114	43.6	12.4	110	353	383
115	43.2	12.5	106	351	377
116	43.6	12.5	109	328	374
117	42.7	11.9	111	339	372

TABLE XVII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL L

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	No samples submitted.				
113	41.2	12.0	112	309	364
114	42.2	11.8	109	282	345
115	43.6	12.9	103	345	357
116	42.2	12.7	106	280	336
117	43.8	13.0	108	314	356

TABLE XVIII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL M

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112		No samples submitted.			
113	42.6	12.0	105	362	402
114	42.4	12.1	101	370	388
115	42.9	12.0	112	373	417
116	42.5	11.7	111	370	407
117	41.6	11.5	110	341	389

TABLE XIX

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL N

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	44.2	12.9	103	376	397
113	43.7	13.3	106	362	390
114	44.3	12.9	110	389	399
115	44.2	13.4	108	376	391
116	44.0	13.3	105	398	399
117	43.5	12.9	102	388	384

TABLE XX

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL O

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	43.1	12.9	107	342	378
113		No samples submitted.			
114	42.7	12.8	108	347	361
115	43.4	12.8	113	340	376
116	43.9	13.2	111	354	394
117	43.9	12.6	119	352	398

TABLE XXI

TABULATION CURRENT AVERAGES BY PERIODS FOR MILL P

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	43.4	12.5	107	310	353
113	43.6	12.8	109	320	359
114	43.6	12.7	113	319	370
115	43.7	12.7	109	334	367
116	43.6	12.8	108	316	368
117	43.8	12.5	112	323	374

TABLE XXII

TABULATION CURRENT AVERAGES BY PERIODS FOR MILL Q

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	43.7	12.8	107	352	367
113	44.2	12.9	109	357	376
114	43.6	12.9	110	355	382
115	43.4	13.0	110	354	373
116	43.3	13.0	111	361	377
117	44.5	13.1	111	360	392

TABLE XXIII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL S

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear g./sheet In	Across
112	42.8	12.6	111	327	368
113	42.6	12.2	110	319	362
114	42.7	12.6	111	335	367
115	42.7	12.9	113	316	363
116	42.7	12.4	113	338	370
117	43.0	12.5	112	325	373

TABLE XXIV

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL R

(Drum Linerboard)

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet In	Across
112	47.0	14.6	100	397	395
113		No samples submitted.			
114		No samples submitted.			
115	47.1	14.6	83	392	373
116	47.5	14.2	90	386	384
117	46.4	13.8	94	376	381

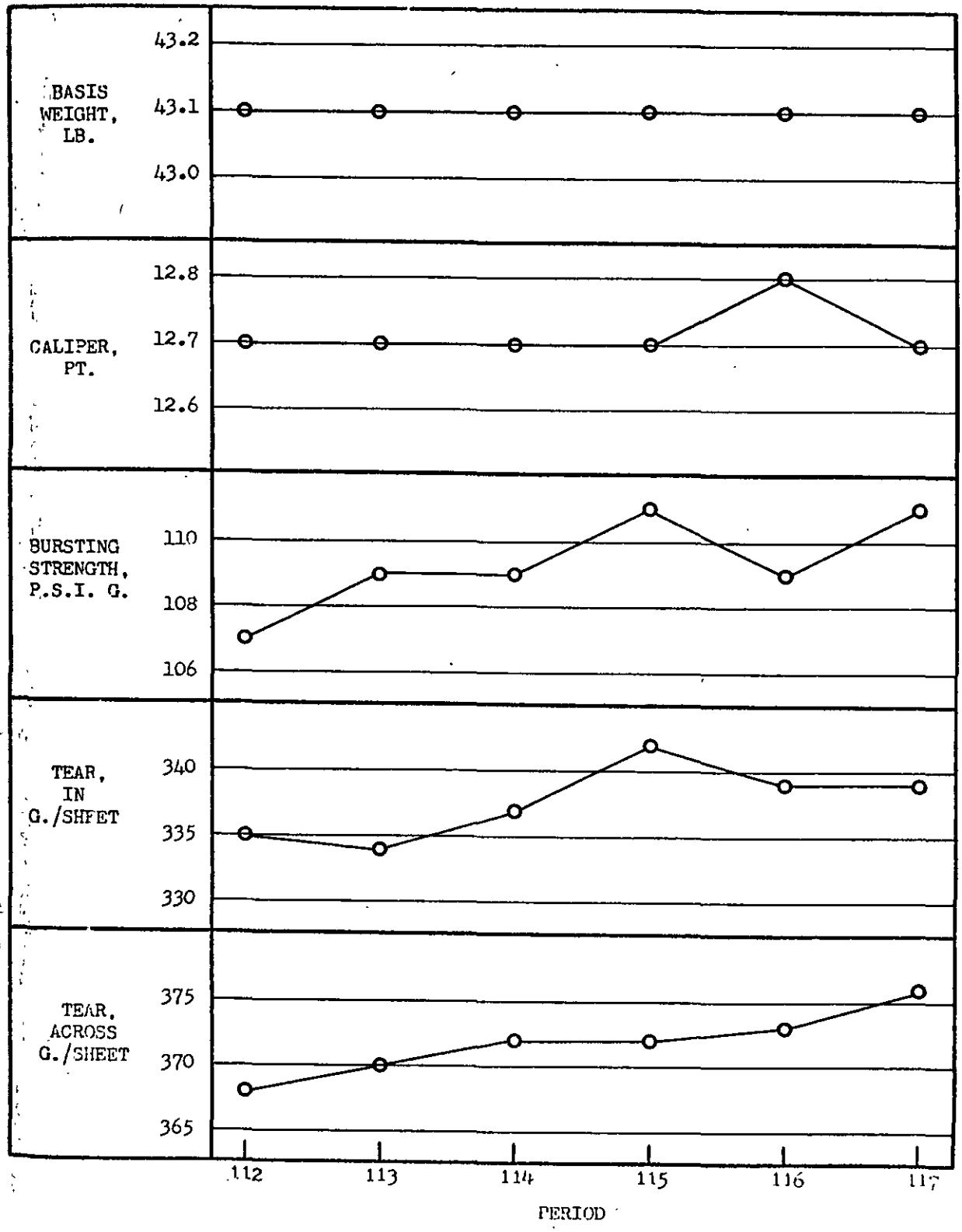

Figure 2

Comparison of Current F.K.I. Averages for Periods 112 through 117

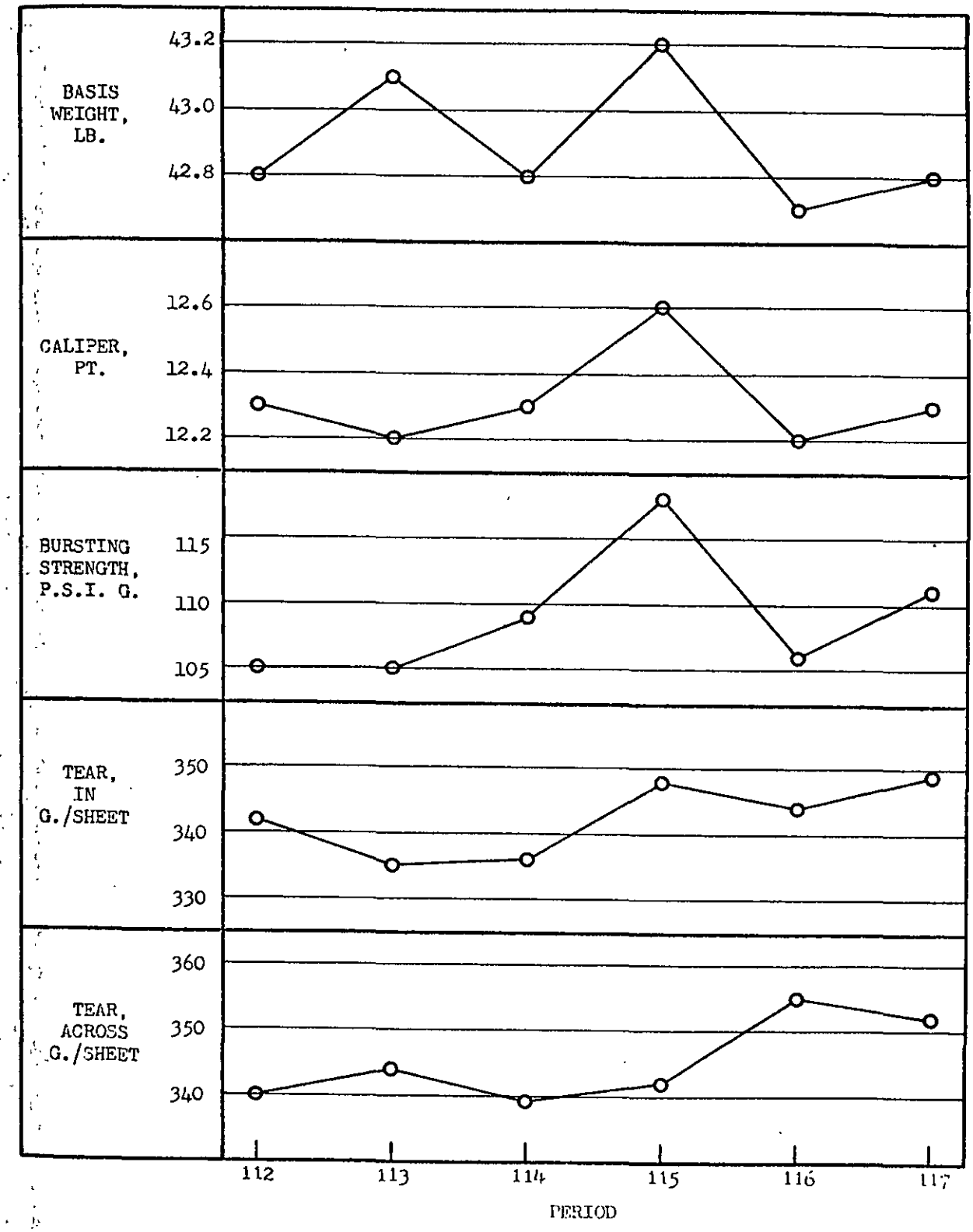

Figure 3

Comparison of Current Mill Averages by Periods for Mill A

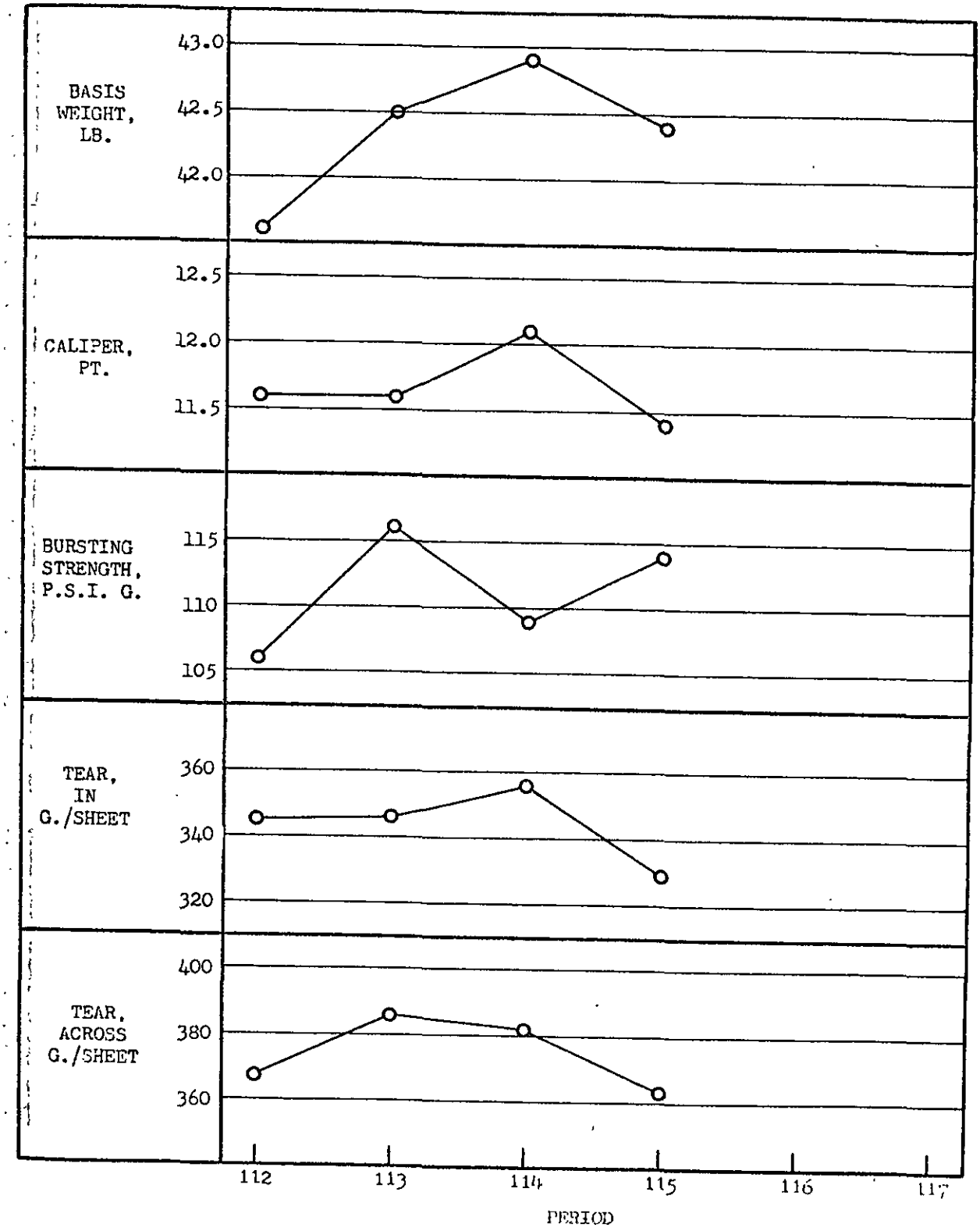

Figure 4

Comparison of Current Mill Averages by Periods for Mill B

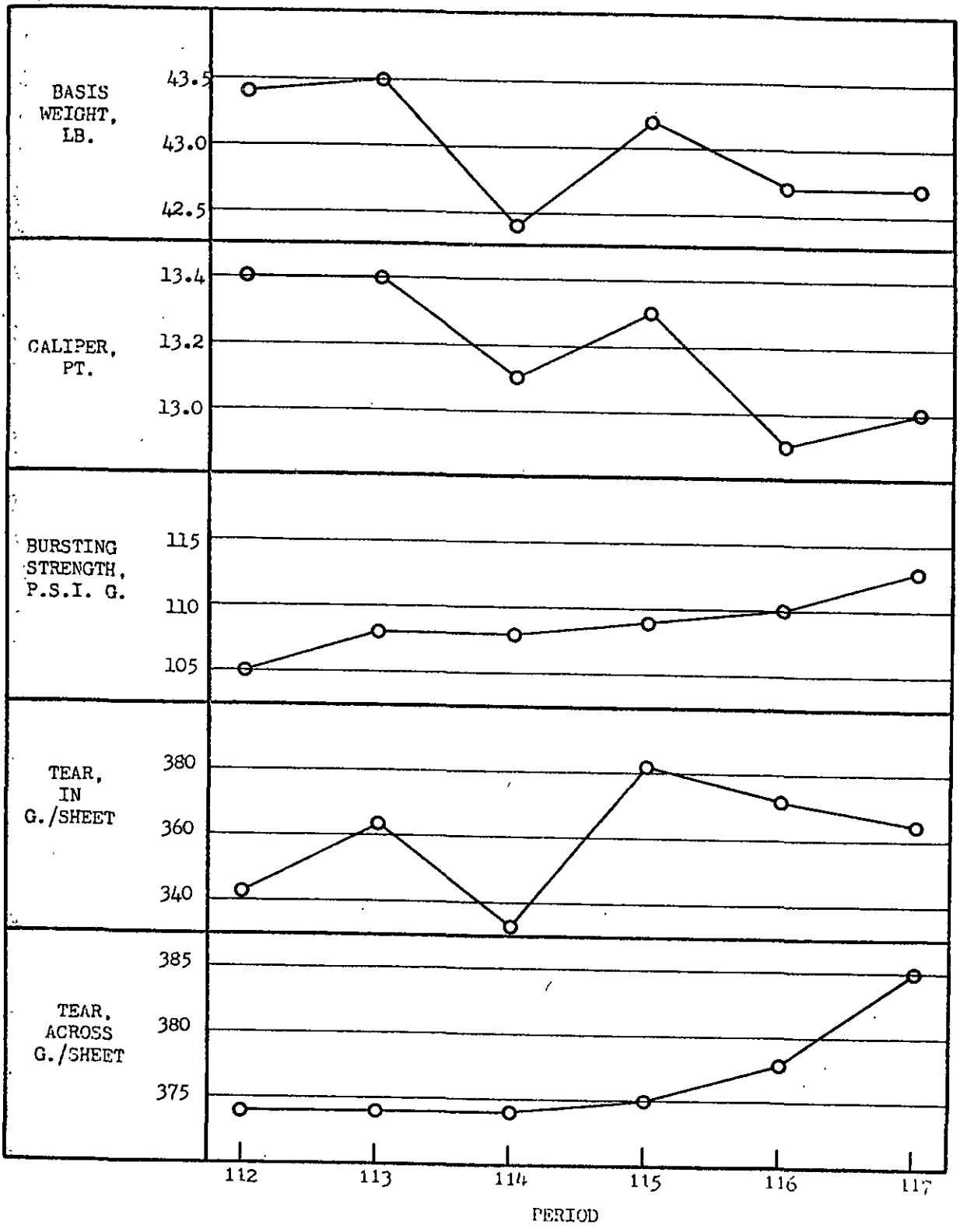

Figure 5

Comparison of Current Mill Averages by Periods for Mill C

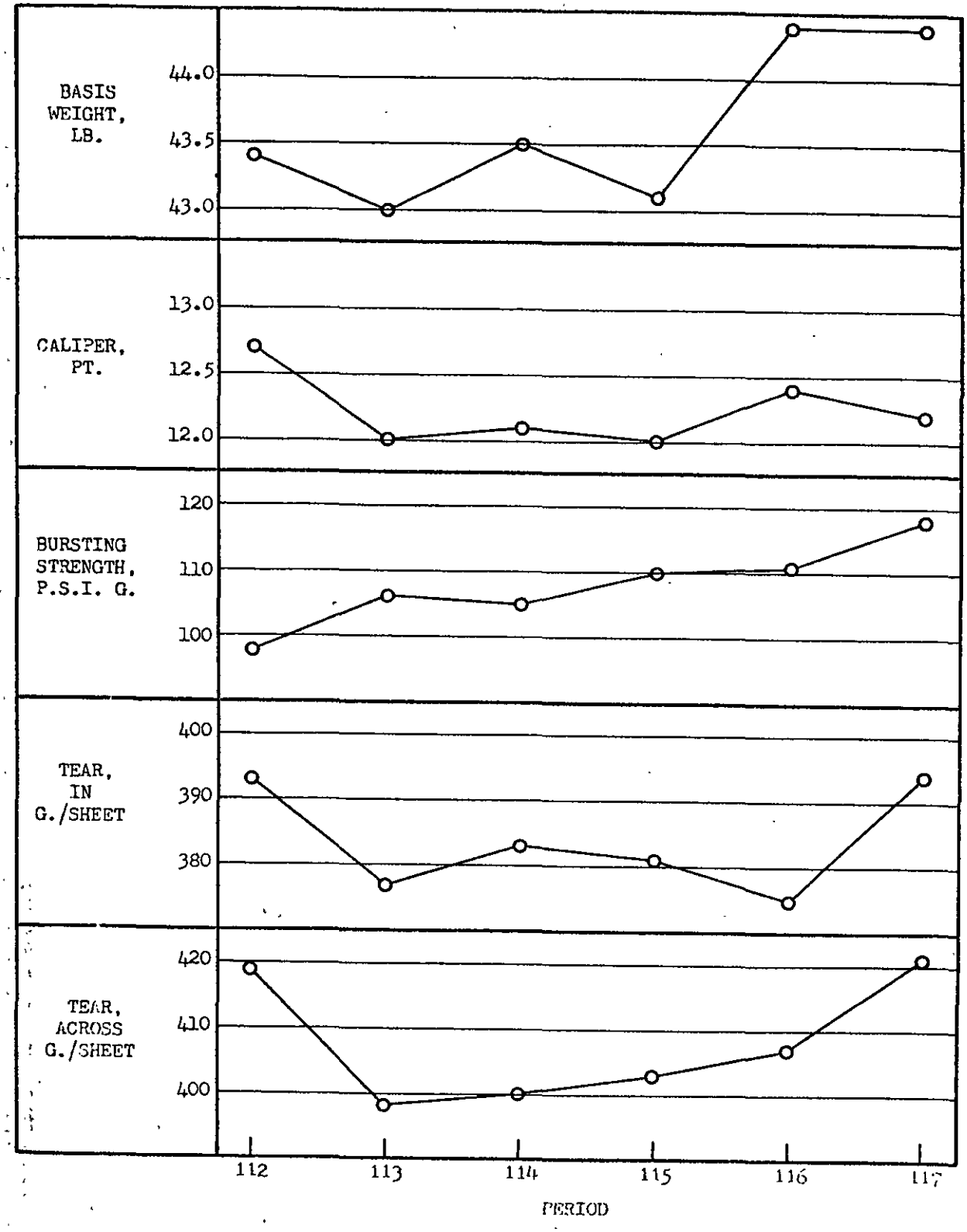

Figure 6

Comparison of Current Mill Averages by Periods for Mill D

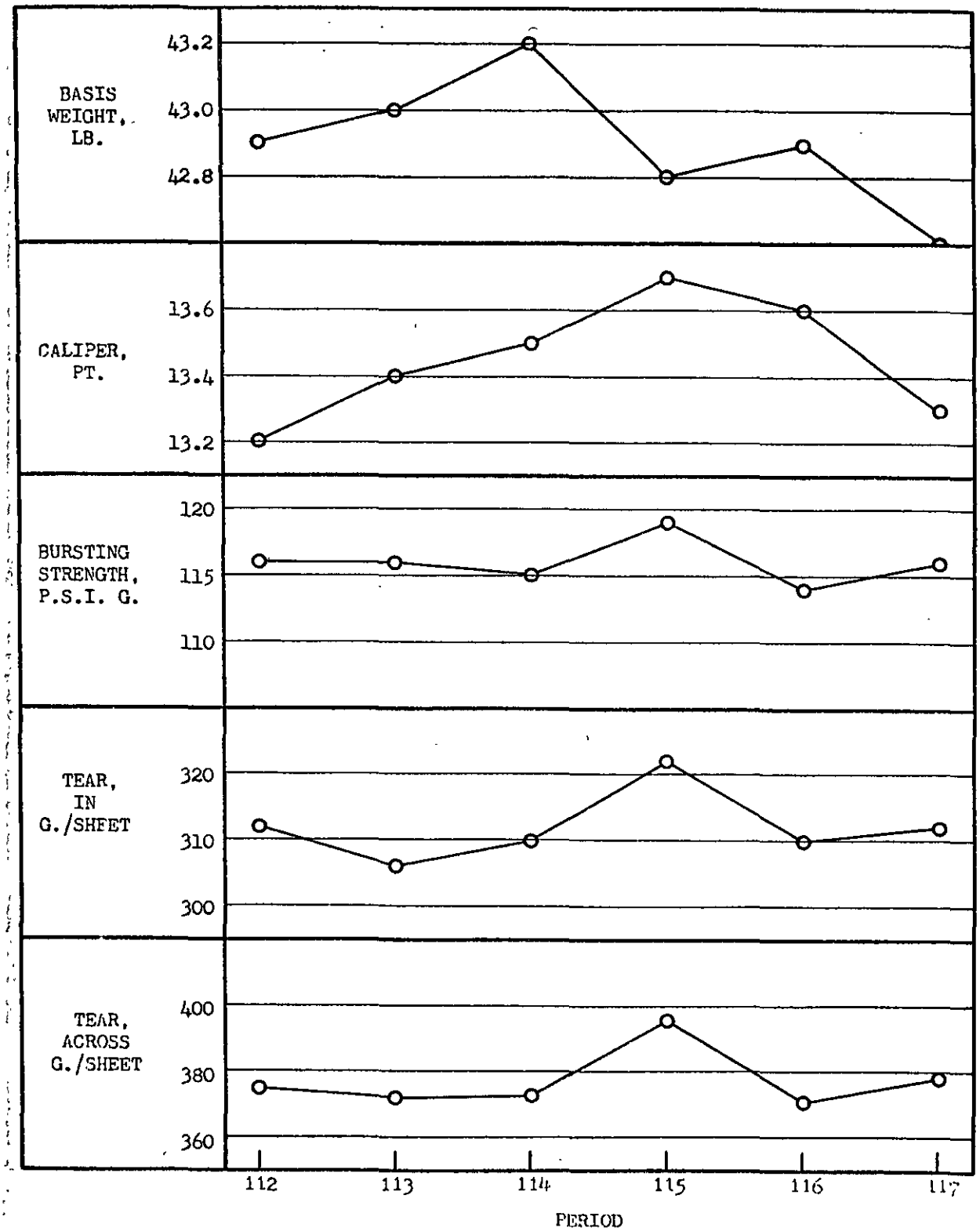

Figure 7

Comparison of Current Mill Averages by Periods for Mill E

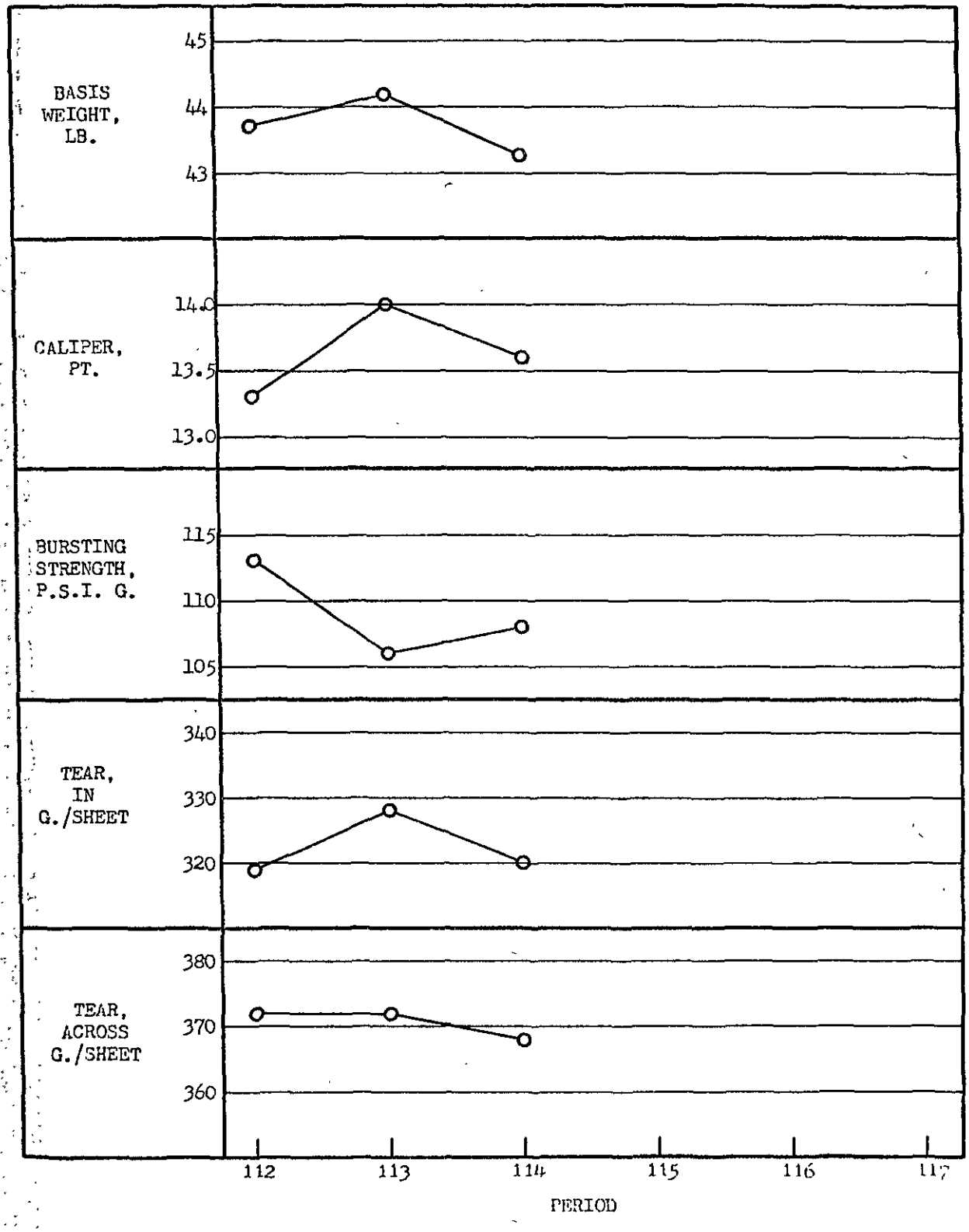

Figure 8

Comparison of Current Mill Averages by Periods for Mill F

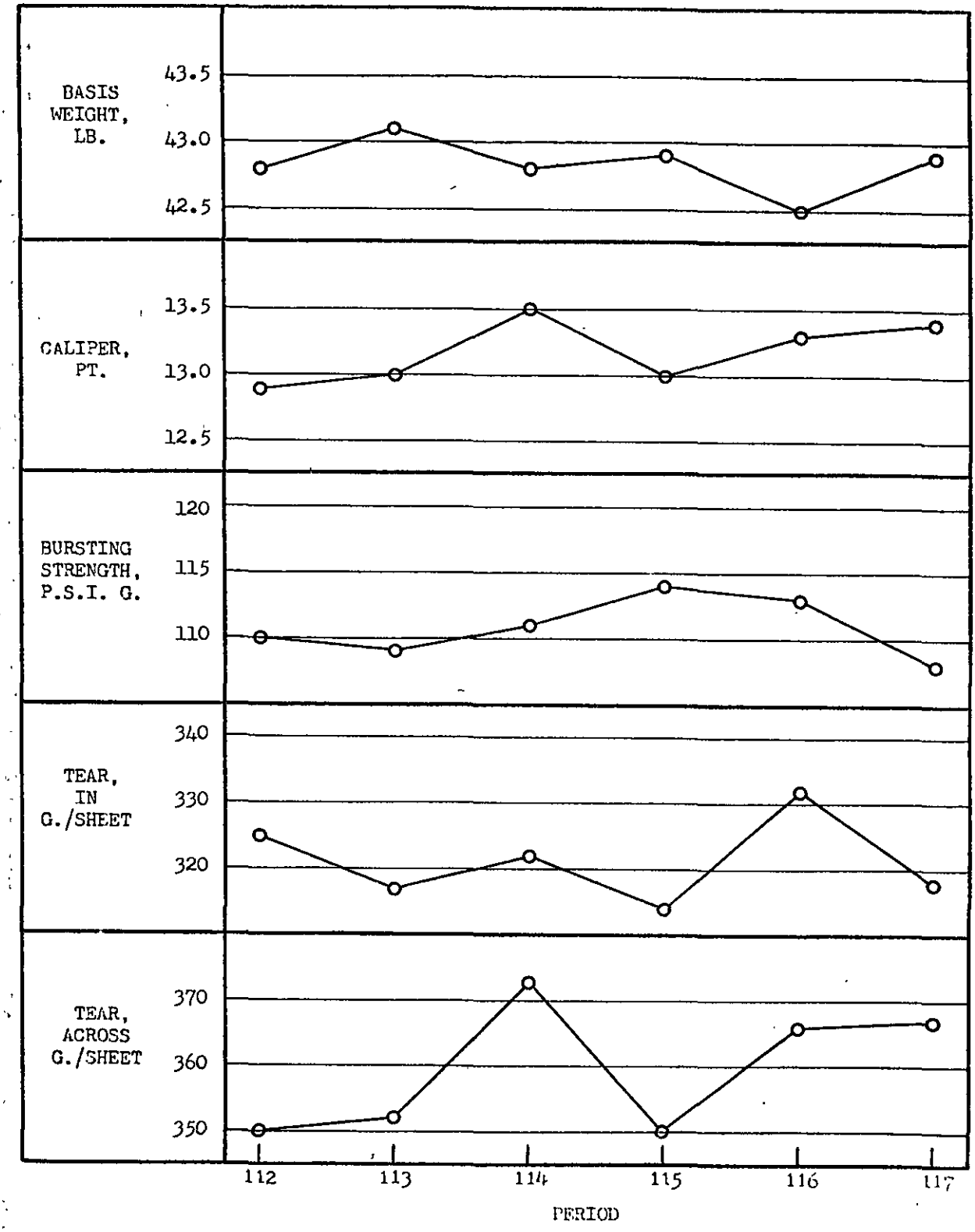

Figure 9

Comparison of Current Mill Averages by Periods for Mill G

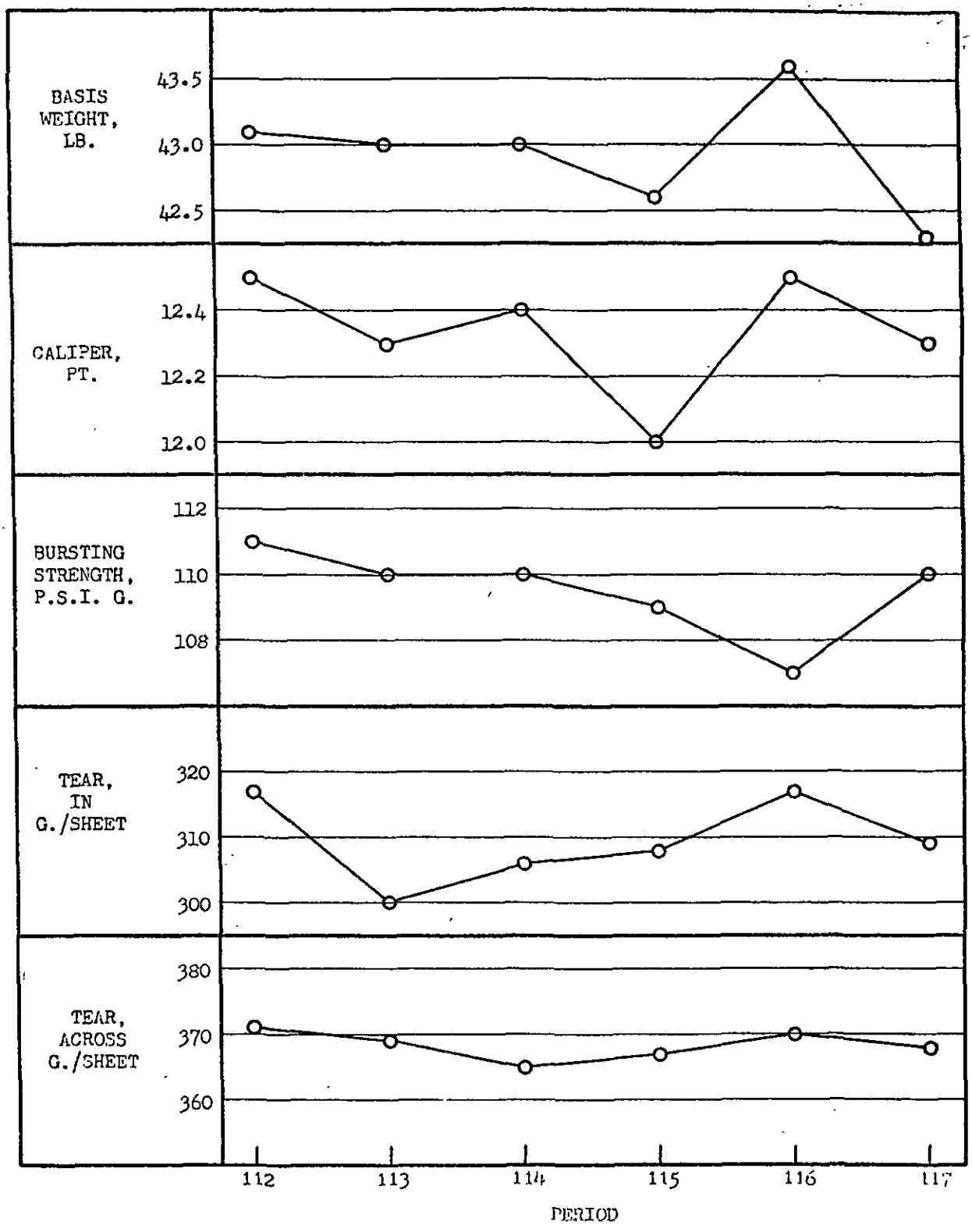

Figure 10

Comparison of Current Mill Averages by Periodsfor Mill H

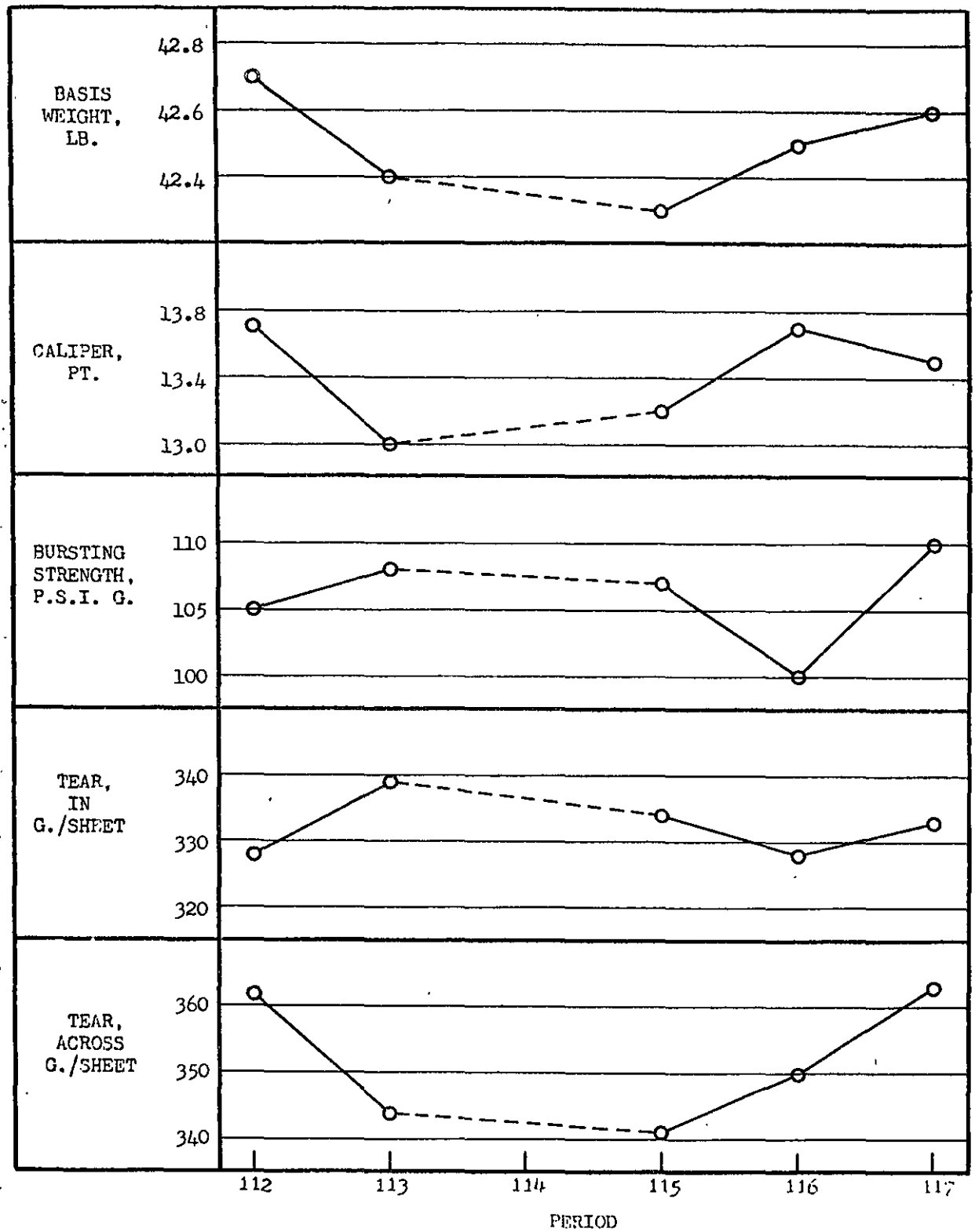

Figure 11

Comparison of Current Mill Averages by Periods for Mill I

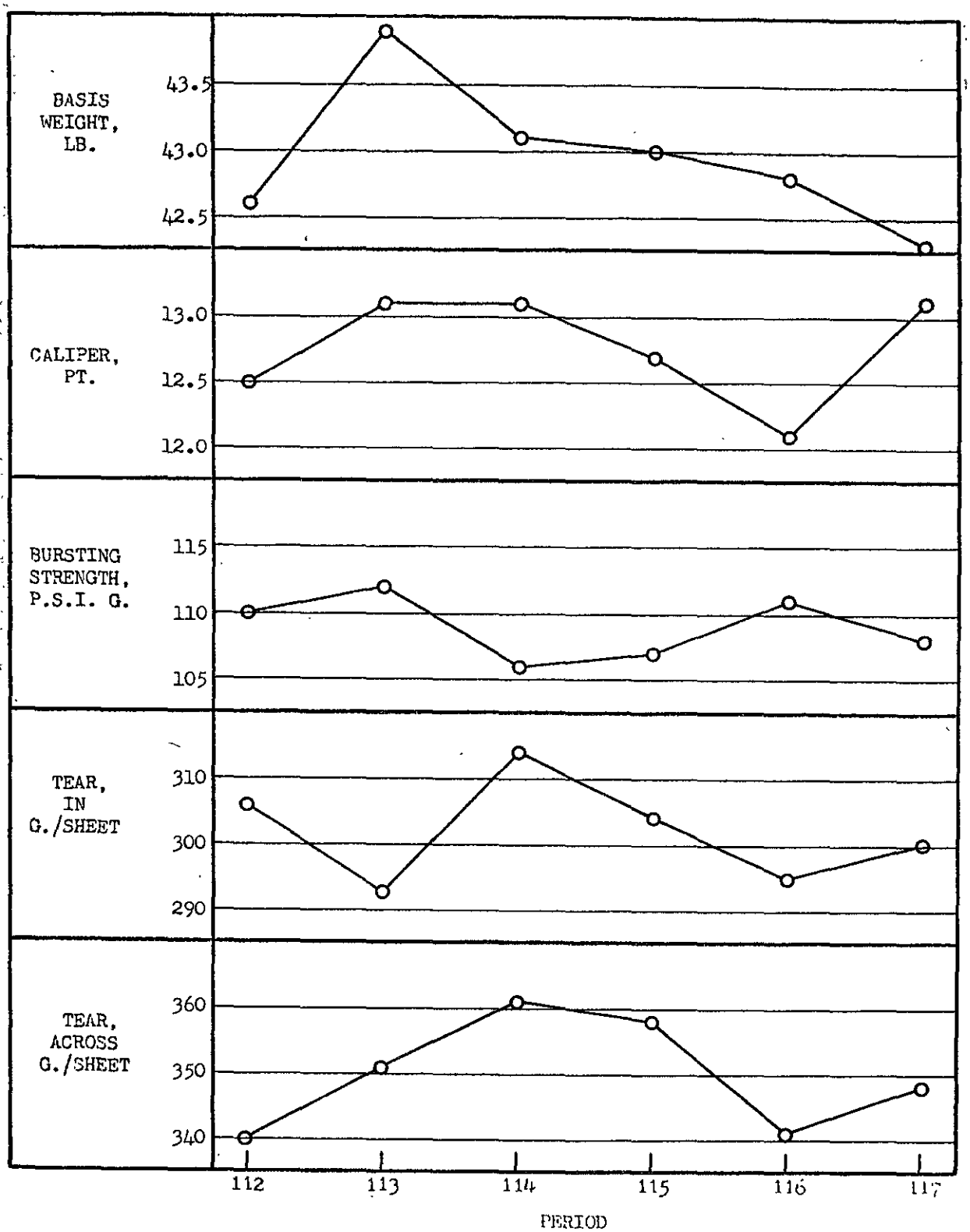

Figure 12

Comparison of Current Mill Averages by Periods for Mill J

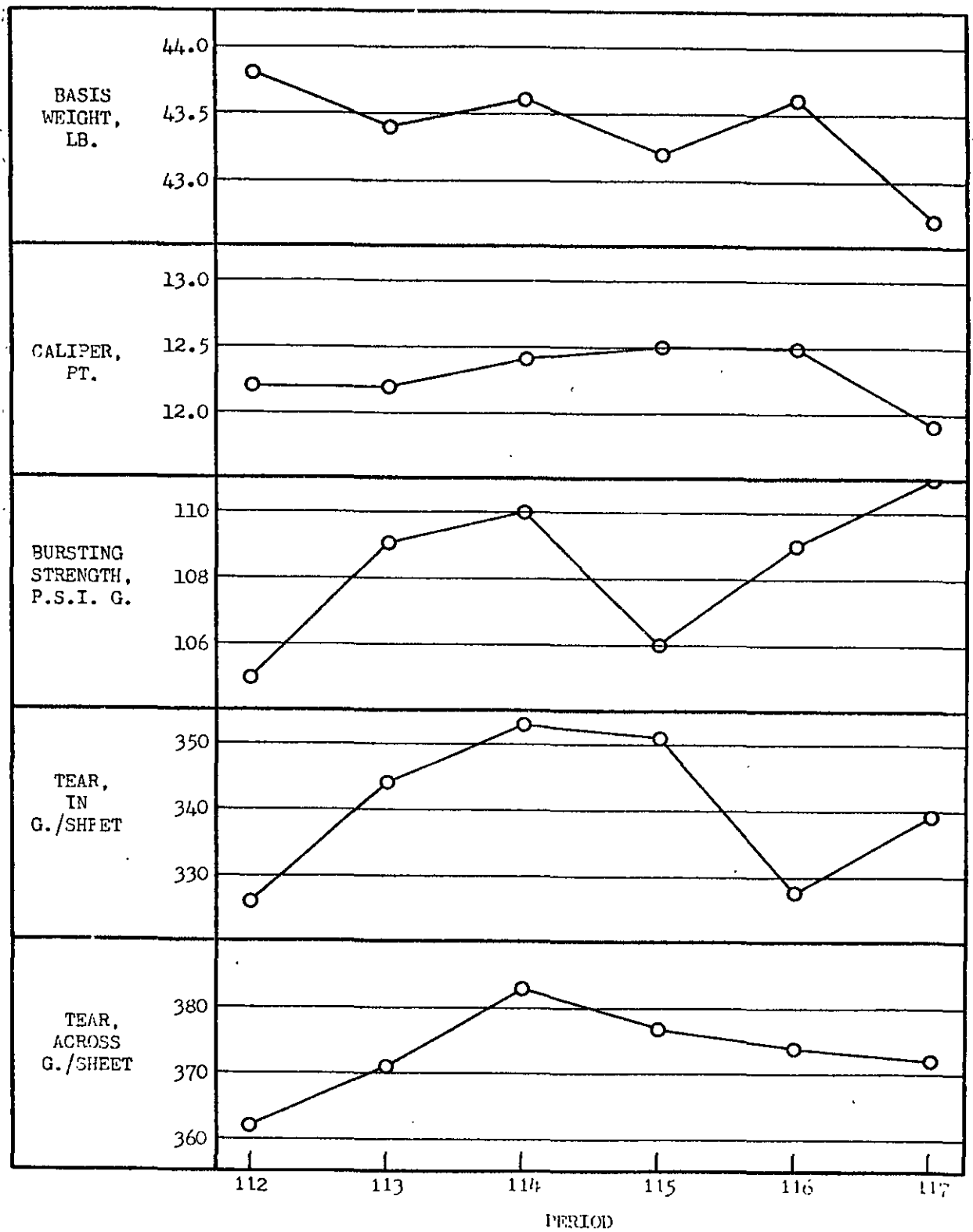

Figure 13

Comparison of Current Mill Averages by Periods for Mill K

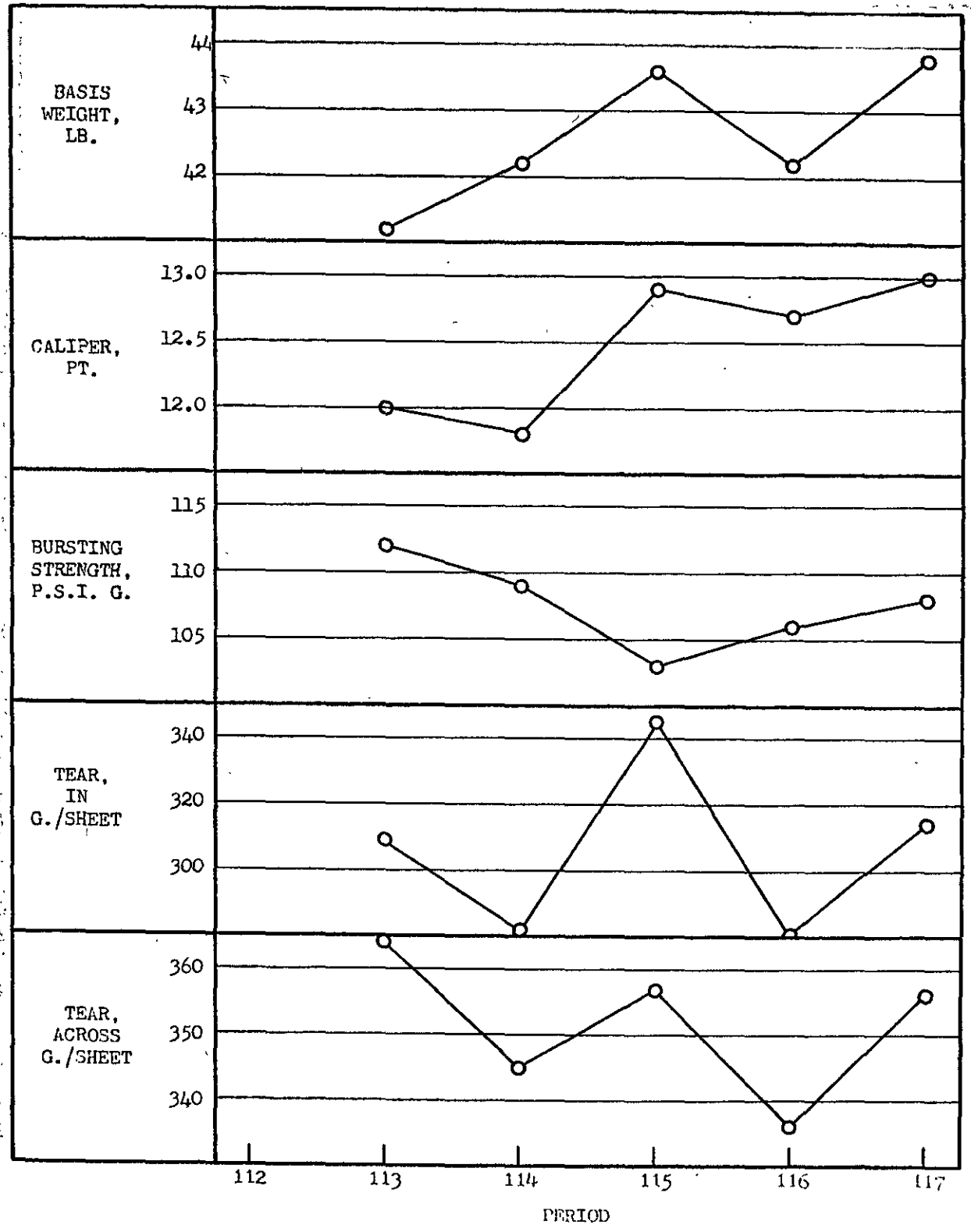

Figure 14

Comparison of Current Mill Averages by Periods for Mill L

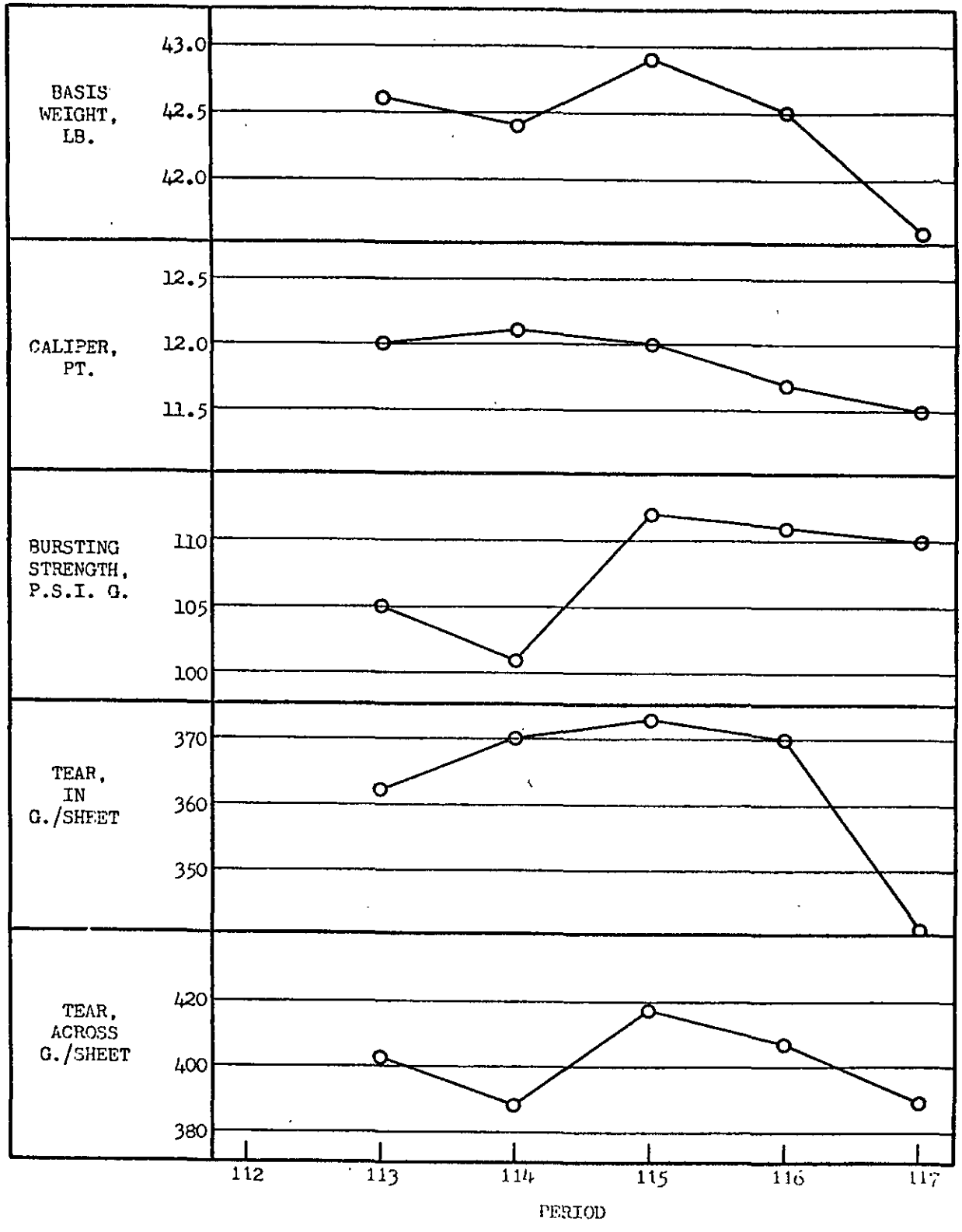

Figure 15

Comparison of Current Mill Average by Periods for Mill M

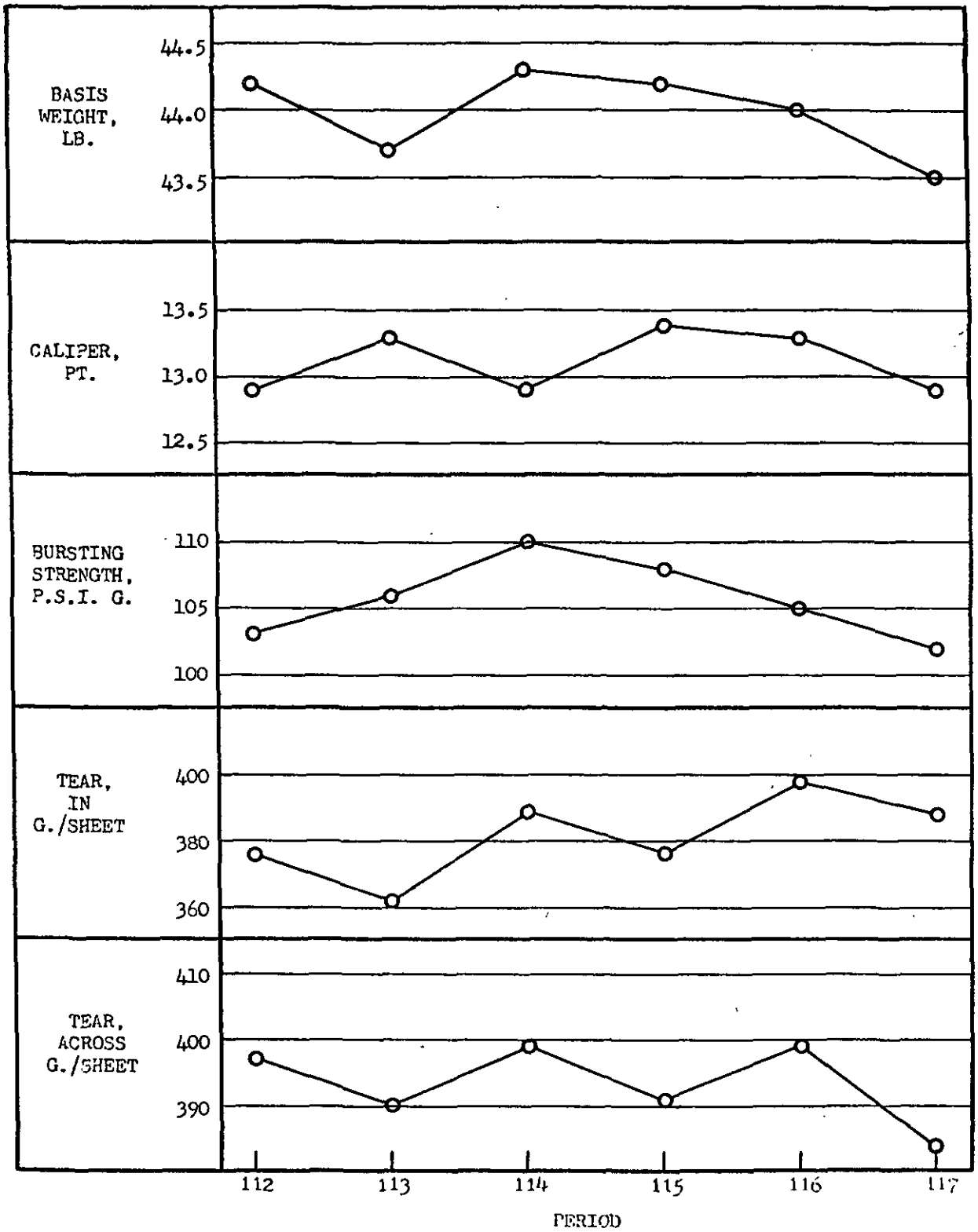

Figure 16

Comparison of Current Mill Average by Periods for Mill N

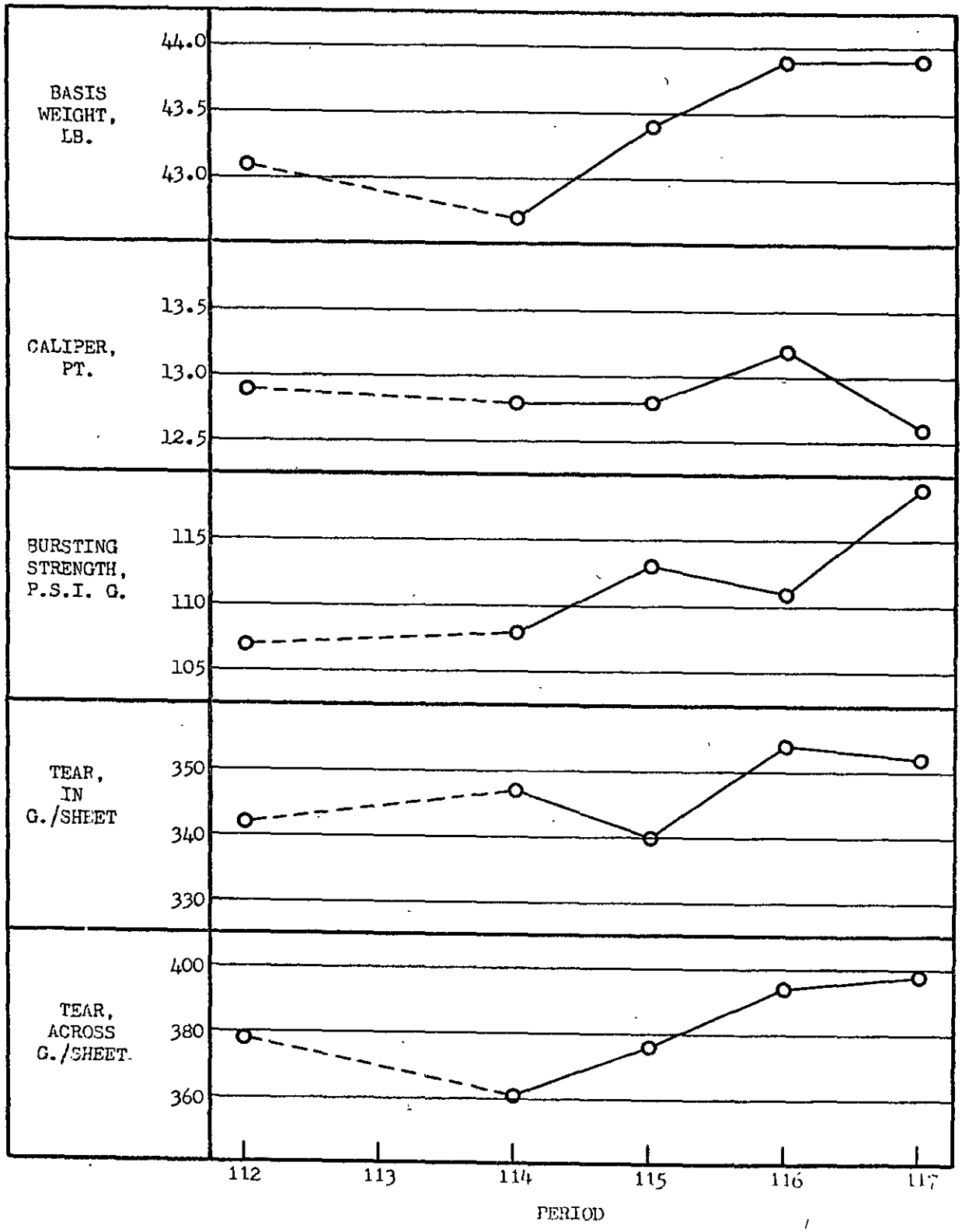

Figure 17

Comparison of Current Mill Average by Periods for Mill O

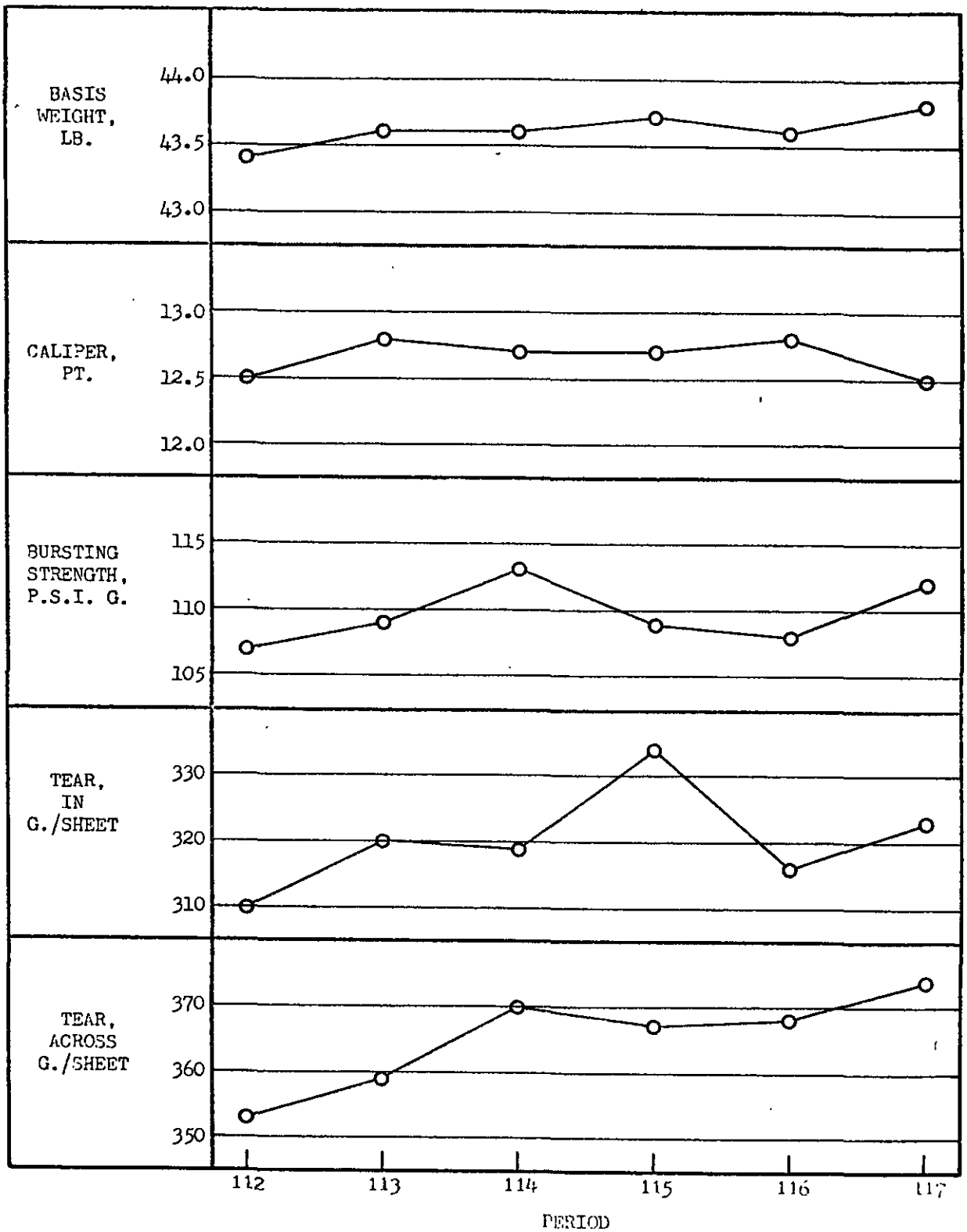

Figure 18

Comparison of Current Mill Average by Periods for Mill P

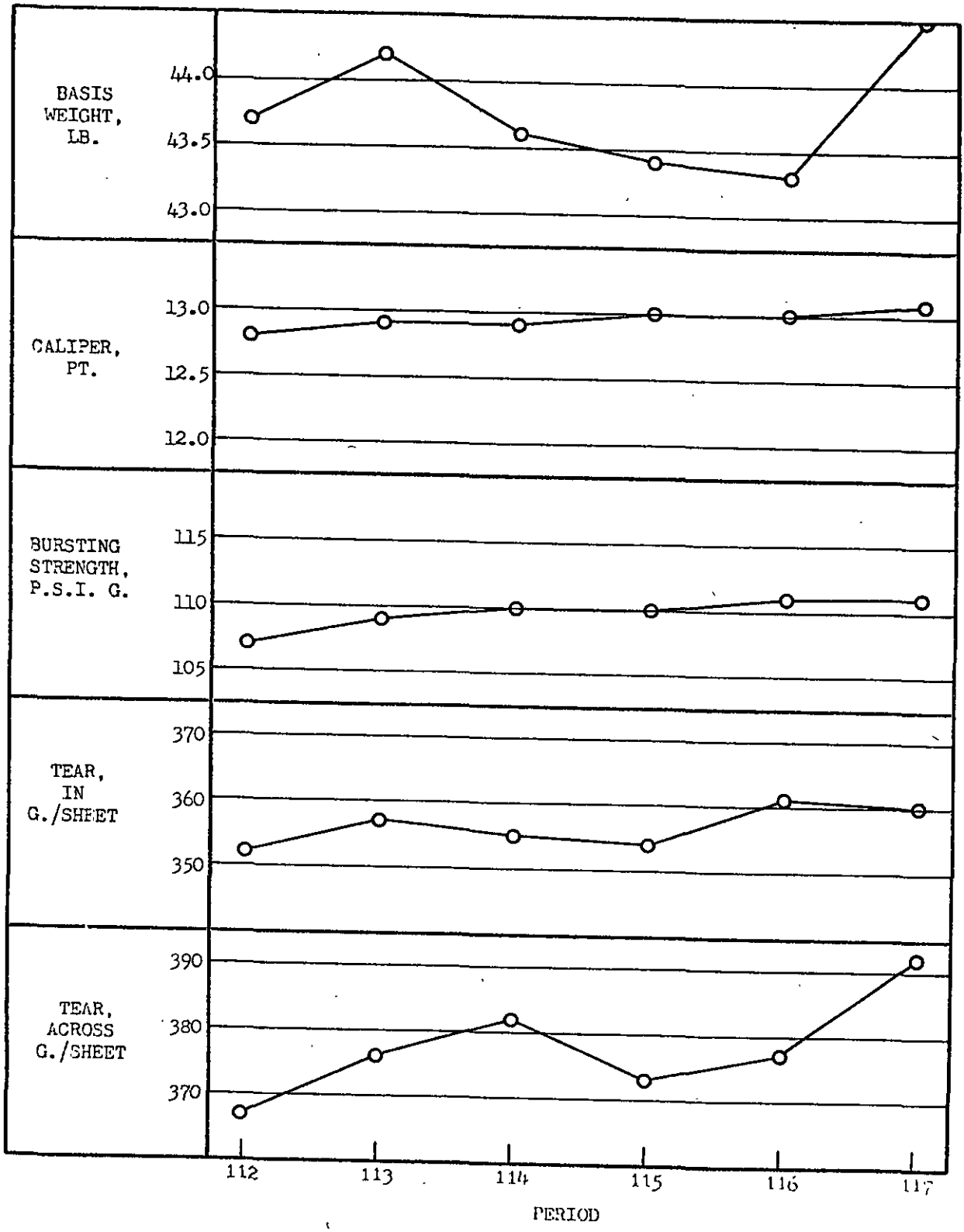

Figure 19

Comparison of Current Mill Average by Periods for Mill Q

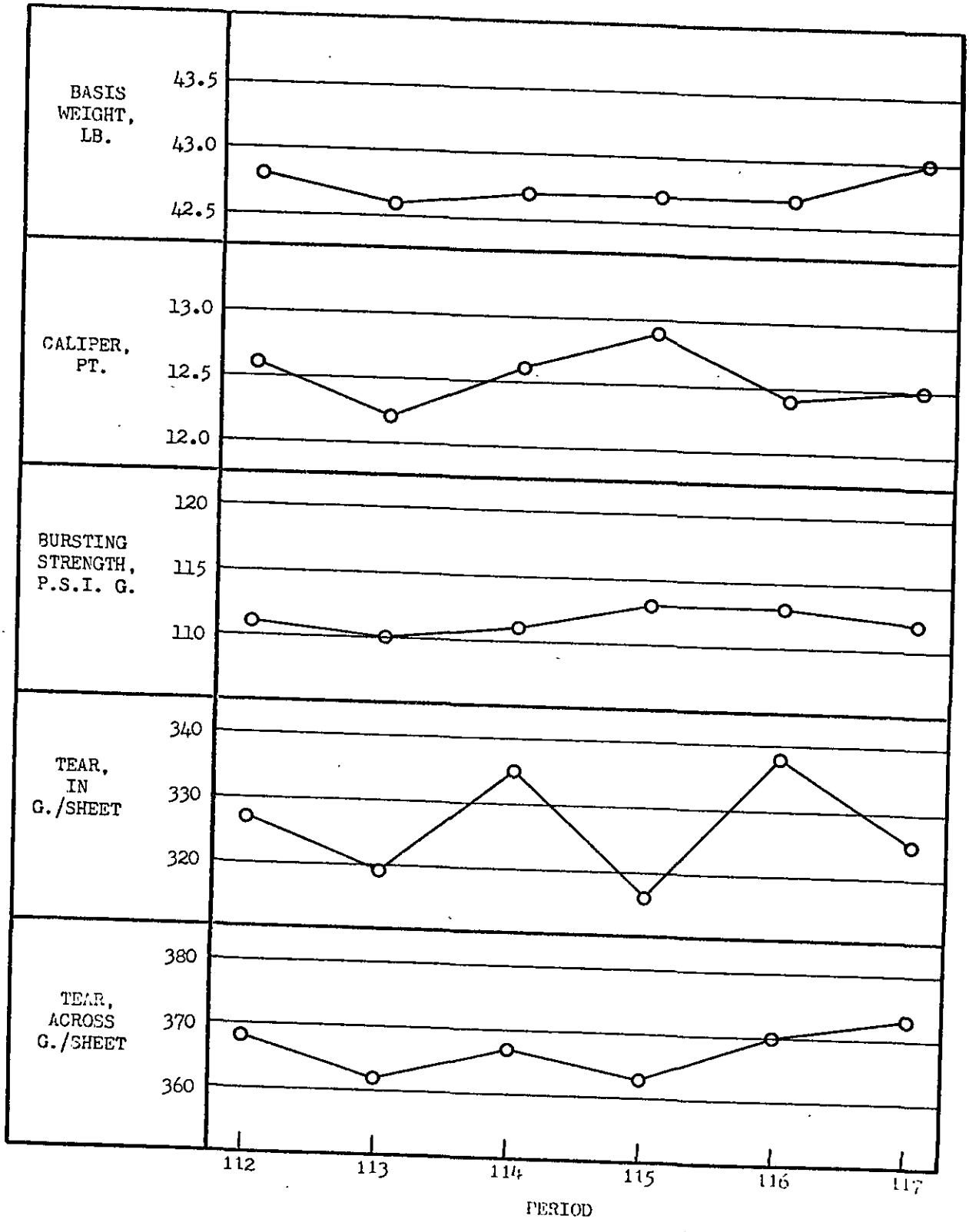

Figure 20

Comparison of Current Mill Averages by Periods for Mill S

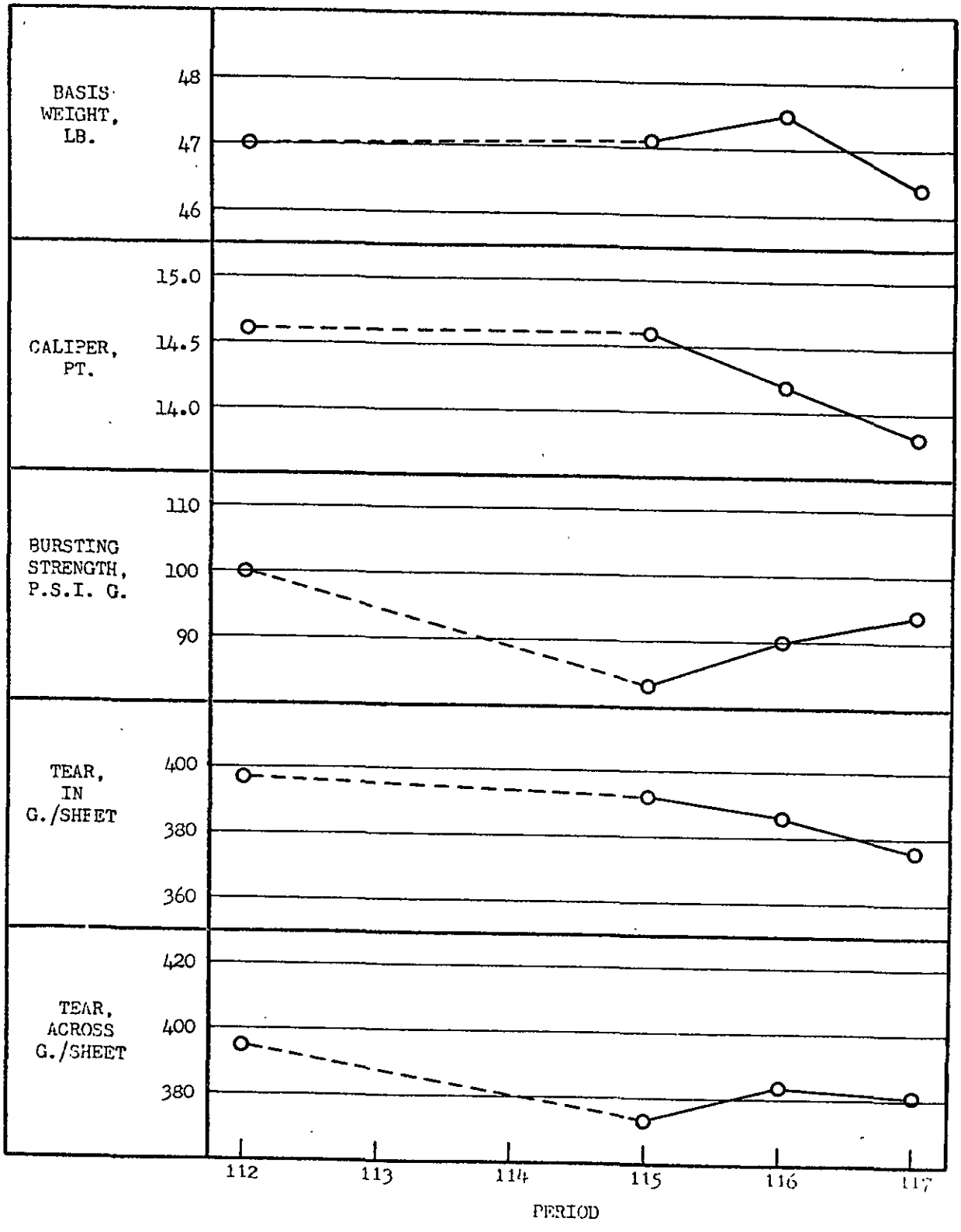

Figure 21

Comparison of Current Mill Averages by Periods for Mill R (Drum Linerboard)

1. Basis weight constant near 43 lb.

2. Caliper constant near 12.3 pt.

3. Bursting strength variable from 105 to 118 p.s.i. gage.

4. Machine direction tear exhibited a slight upward trend.

5. Cross-machine direction tear also exhibited a slight upward trend.

The trends for every other mill are summarized in this same way in Table V making it easy to compare trends for the various mills. From a comparison of these trends, it may be noted in Table V that most of the mills had constant basis weight averages, constant caliper averages, constant or variable bursting strength averages (i.e., no distinct trends), and either constant or variable tear averages (machine and cross-machine directions).